CONTENTS

VOL. 18, NO. 1, AUGUST 1987

1 *Meg Gawler and Rene Chapuis:* An improved version of the Haney grazing chamber

5 *Martin C. Davey:* Seasonal variation in the filament morphology of the freshwater diatom *Melosira granulata* (Ehrenb.) Ralfs

17 *Ronald J. Hall, Charles T. Driscoll and Gene E. Likens:* Importance of hydrogen ions and aluminium in regulating the structure and function of stream ecosystems: an experimental test

45 *Frank Taylor and Albert C. Hendricks:* The influence of fish on leaf breakdown in a Virginia pond

53 *Alexander M. Milner:* Colonization and ecological development of new streams in Glacier Bay National Park, Alaska

71 *R. J. Flower and A. J. Nicholson:* Relationships between bathymetry, water quality and diatoms in some Hebridean lochs

87 *Laurie E. Friday:* The diversity of macroinvertebrate and macrophyte communities in ponds

105 *Barry E. Bendell and Donald K. McNicol:* Estimation of nektonic insect populations

109 *L. J. Benson and R. G. Pearson:* The role of drift and effect of season on macroinvertebrate colonization of implanted substrata in a tropical Australian stream

117 *Fumio Hayashi and Toshi Yoshida:* Seasonal change in the respiration of the dobsonfly larva, *Protohermes grandis* (Megaloptera: Corydalidae)

125 *M. Alvarez Cobelas, J. L. Velasco, A. Rubio and F. J. Acosta:* Sizes and daily growth rates of two green algal phytoplankters in the field

135 *P. C. Matthews and S. I. Heaney:* Solar heating and its influence on mixing in ice-covered lakes

151 *Mike Dickman:* Lake sediment microlaminae and annual mortalities of photosynthetic bacteria in an oligomictic lake

165 *D. Crosetti and F. G. Margaritora:* Distribution and life cycles of cladocerans in temporary pools from Central Italy

177 *J. M. Elliott:* Temperature-induced changes in the life cycle of *Leuctra nigra* (Plecoptera: Leuctridae) from a Lake District stream

185 *Chris Luecke and Arni H. Litt:* Effects of predation by *Chaoborus flavicans* on crustacean zooplankton of Lake Lenore, Washington

193 **Book Reviews; Announcement**

VOL. 18, NO. 2, OCTOBER 1987

197 *Barry J. F. Biggs:* Effects of sample storage and mechanical blending on the quantitative analysis of river periphyton

205 *Jerzy Kolasa:* Population growth in some *Mesostoma* species (Turbellaria) predatory on mosquitoes

213 *James G. Cooke and Robert E. White:* The effect of nitrate in stream water on the relationship between denitrification and nitrification in a stream–sediment microcosm 461

227 *K. J. Collier and M. J. Winterbourn:* Faunal and chemical dynamics of some acid and alkaline New Zealand streams 469

241 *Rosanna L. Mattingly:* Resource utilization by the freshwater deposit feeder *Ptychoptera townesi* (Diptera: Ptychopteridae) 483

255 *Rosanna L. Mattingly:* Handling of coarse and fine particulate organic matter by the aquatic insects *Paraleptophlebia gregalis* and *P. temporalis* (Ephemeroptera: Leptophlebiidae) 495

267 *M. D. K. Bradley and J. D. Reynolds:* Diet of the leeches *Erpobdella octoculata* (L) and *Helobdella stagnalis* (L) in a lotic habitat subject to organic pollution 509

277 *Alexander D. Huryn and J. Bruce Wallace:* Production and litter processing by crayfish in an Appalachian mountain stream 521

287 *R. C. Hart:* Population dynamics and production of five crustacean zooplankters in a subtropical reservoir during years of contrasting turbidity 529

319 *D. McShaffrey and W. P. McCafferty:* The behaviour and form of *Psephenus herricki* (DeKay) (Coleoptera: Psephenidae) in relation to water flow 537

325 *J. M. King, M.-P. Henshall-Howard, J. A. Day and B. R. Davies:* Leaf-pack dynamics in a southern African mountain stream 545

341 *Michael J. McKee and Charles O. Knowles:* Levels of protein, RNA, DNA, glycogen and lipid during growth and development of *Daphnia magna* Straus (Crustacea: Cladocera) 559

353 *K. O'Hara and T. Penczak:* Production of the three-spined stickleback, *Gasterosteus aculeatus* L., in the River Weaver, England 569

361 *Wilfried Gabriel, Barbara E. Taylor and Susanne Kirsch-Prokosch:* Cladoceran birth and death rates estimates: experimental comparisons of egg-ratio methods 573

Opinion

373 *R. W. Black, II and L. B. Slobodkin:* What is cyclomorphosis?

379 **Book Reviews; Short Notices; Announcement**

VOL. 18, NO. 3, DECEMBER 1987

389 *Graham P. Harris:* Time series analysis of water quality data from Lake Ontario: implications for the measurement of water quality in large and small lakes

405 *G. T. Peters, J. R. Webster and E. F. Benfield:* Microbial activity associated with seston in headwater streams: effects of nitrogen, phosphorus and temperature

415 *Raymond M. Newman, James A. Perry, Eric Tam and Ronald L. Crawford:* Effects of chronic chlorine exposure on litter processing in outdoor experimental streams

429 *D. W. Larson, C. N. Dahm and N. S. Geiger:* Vertical partitioning of the phytoplankton assemblage in ultraoligotrophic Crater Lake, Oregon, U.S.A.

443 *Ian Frost and Mike C. Miller:* Late Holocene flooding in the Ecuadorian rain forest

455 *Christopher G. Peterson:* Gut passage and insect grazer selectivity of lotic diatoms

461 *M. G. Kelly and B. A. Whitton:* Growth rate of the aquatic moss *Rhynchostegium riparioides* in Northern England

469 *J. A. Waringer:* Spatial distribution of Trichoptera larvae in the sediments of an Austrian mountain brook

483 *J. Clark Miller:* Evidence for the use of non-detrital dissolved organic matter by microheterotrophs on plant detritus in a woodland stream

495 *Jean M. Jacoby:* Alterations in periphyton characteristics due to grazing in a Cascade foothill stream

509 *James G. Cooke and Robert E. White:* Spatial distribution of denitrifying activity in a stream draining an agricultural catchment

521 *Russell B. Rader and James V. Ward:* Resource utilization, overlap and temporal dynamics in a guild of mountain stream insects

529 *G. Pritchard and S. B. Berté:* Growth and food choice by two species of limnephilid caddis larvae given natural and artificial foods

537 *Stefan E. B. Weisner:* The relation between wave exposure and distribution of emergent vegetation in a eutrophic lake

545 *S. J. Ormerod, K. R. Wade and A. S. Gee:* Macro-floral assemblages in upland Welsh streams in relation to acidity, and their importance to invertebrates

559 *R. G. Pearson and N. V. Jones:* Short-term movements of chalk-stream invertebrates

569 **Book Reviews; Short Notices**

573 **Author Index to Volume 18**